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EXAMINER	
MOORE JR, MICHAEL J	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/843,621	PRISMANTAS ET AL.	
	Examiner	Art Unit	
	Michael J. Moore, Jr.	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Applicant's amendments made to claims **8, 9, 26, and 27** to obviate rejection under 35 U.S.C. 112, 2nd paragraph are proper and have been entered. These rejections have been withdrawn.

Claim Objections

1. Claims **30, 32, and 34** are objected to because of the following informalities:

Regarding claim **30**, an objection is made to the phrase "the most efficient of scheduling" on line 2. It appears that the word "way" or a similar term is missing between the words "most" and "efficient". Appropriate correction is required.

Regarding claims **32 and 34,** an objection is made to the phrase "the most efficient of adjusting" on line 2 of each of these claims. It appears that the word "way" or a similar term is missing between the words "most" and "efficient". Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1, 4, 12, 13, and 18** are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson (U.S. 6,374,082). The Carlson reference teaches all of the limitations of the listed claims with the reasoning that follows.

Regarding claim **1**, "an RF data transfer system" is anticipated by the system shown in Figure 2. "Means for detecting repetitive RF interference which occurs during RF data transfer intervals" is anticipated by the microwave periodic noise detect circuit 22 (means) of Figure 2 that is spoken of in column 3, lines 37-47. Lastly, "means, operative in response to periodicity and duration data obtained by the detecting means, for scheduling the RF data transfer during the intervals that avoid the interference" is anticipated by microprocessor 24 (means) of Figure 2 that controls the communication of data during quiescent periods in the noise (intervals that avoid the interference) as spoken of in column 3, lines 37-47.

Regarding claim **4**, "wherein the scheduling means includes means for shifting a time sequence of the RF data transfer to avoid the interference" is anticipated by microprocessor 24 (means) of Figure 2 that controls the communication of data during quiescent periods in the noise as spoken of in column 3, lines 37-47.

Regarding claim **12**, "detecting interference using a filter" and "sweeping the filter across an RF band of interest" is anticipated by the microwave periodic noise detection circuit (filter) shown in Figure 3 that uses an AM detector or RSSI circuitry to lock on to the envelope of the periodic noise (sweeping across an RF band to detect interference) as spoken of on column 3, lines 37-47. "Calculating characteristics of RF interference within an RF band of interest to arrive at an interference profile of periodicity and

discrete durations of the interference" is anticipated by the periodic noise characteristics (interference profile) shown in Figures 1 and 4 that are calculated by microwave periodic noise detect circuit 22 of Figure 2. Lastly, "adjusting time sequences of desired RF transmissions to accommodate the interference profile" is anticipated by the communication of data during quiescent periods in the noise that is controlled by microprocessor 24 of Figure 2 as spoken of in column 3, lines 37-47.

Regarding claim **13**, "wherein the filter is a narrow band filter" is anticipated by the microwave periodic noise detection circuit (narrow band filter) shown in Figure 3 that uses an AM detector or RSSI circuitry to lock on to the envelope of the periodic noise (sweeping across an RF band to detect interference) as spoken of on column 3, lines 37-47.

Regarding claim **18**, "wherein the RF interference is repetitive RF interference" is anticipated by the detected periodic noise shown in Figure 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims **10, 11, 20, 23, 28, and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (U.S. 6,374,082) in view of Hiramatsu et al. (U.S. 6,463,261).

Regarding claim **10**, Carlson teaches the system of claim **1**. Carlson fails to teach using a separate antenna for interference detection. However, Hiramatsu et al. teaches a system in Figure 2 that uses an antenna 1 for reception and detection of an interference signal as spoken of in column 4, lines 9-17. This antenna 1 is different than antenna 8 of Figure 2, which is used for data transmission (data transfer) as stated in column 4, lines 37-43. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of Carlson with the multiple antenna teachings of Hiramatsu et al. in order to eliminate interference in the system as spoken of column 3, lines 51-63.

Regarding claim **11**, Carlson in view of Hiramatsu et al. teaches the system of claim **10**. Carlson fails to teach that the antennas used for data transfer are sectorized and are used to determine a direction of the interference. However, Hiramatsu et al. teaches a system in Figure 2 that detects interference from an undesired source (direction of interference) as well as desired information as shown in Figure 2. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of Carlson with the interference

detection teachings of Hiramatsu et al. in order to eliminate interference in the system as spoken of column 3, lines 51-63.

Regarding claim **20**, Carlson teaches periodic noise characteristics (interference profile) shown in Figures 1 and 4 that are determined by microwave periodic noise detect circuit 22 (RF filter) of Figure 2 that is in communication with antenna 20 of Figure 2. Carlson also teaches the communication of data during quiescent periods in the noise (scheduling to avoid interference) that is controlled by microprocessor 24 of Figure 2 as spoken of in column 3, lines 37-47. Carlson does not explicitly teach that microwave noise detect circuit 22 (RF filter) of Figure 2 can be separate from transceiver 12. However, it would be obvious to someone skilled in the art to use a stand-alone filter rather than a filter integrated with a transceiver as long as the filter performs the same function. Carlson fails to teach using a separate antenna for interference detection. However, Hiramatsu et al. teaches a system in Figure 2 that uses an antenna 1 for reception and detection of an interference signal as spoken of in column 4, lines 9-17. This antenna 1 is different than antenna 8 of Figure 2, which is used for data transmission (data transfer) as stated in column 4, lines 37-43. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of Carlson with the multiple antenna teachings of Hiramatsu et al. in order to eliminate interference in the system as spoken of column 3, lines 51-63.

Regarding claim **23**, Carlson further speaks of the 2.4 GHz – 2.5 GHz ISM Band (unlicensed bands) in column 1, lines 32-36.

Regarding claim **28**, Carlson teaches the microwave periodic noise detection circuit (detector) shown in Figure 3.

Regarding claim **29**, Carlson fails to teach that the antennas used for data transfer are sectorized and are used to determine a direction of the interference. However, Hiramatsu et al. teaches a system in Figure 2 that detects interference from an undesired source (direction of interference) as well as desired information as shown in Figure 2. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of Carlson with the interference detection teachings of Hiramatsu et al. in order to eliminate interference in the system as spoken of column 3, lines 51-63.

6. Claims **3, 19, and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (U.S. 6,374,082) in view of Ubowski et al. (U.S. 6,346,692).

Regarding claims **3, 19, and 24,** Carlson teaches the system of claim **1**, the method of claim **18**, and the method of claim **20**, respectively. Carlson also teaches periodic noise in the ISM band resulting from microwave ovens. Carlson does not explicitly teach periodic noise in the ISM band resulting from radar signals. However, Ubowski et al. teaches a microwave oven which adaptively avoids interference with a communications device. Ubowski et al. also teaches in column 1, lines 33-38 how microwave energy has uses in radar applications. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to modify the teachings of Carlson to avoid radar interference rather than interference from microwave ovens in order to provide an improved means of communication in

environments with periodic noise sources other than microwave ovens as spoken of in column 2, lines 1-19 of Carlson.

7. Claims **5, 6, 21, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (U.S. 6,374,082) in view of Blair et al. (US 2002/0173271).

Regarding claims **5 and 21**, Carlson teaches the system of claim **4** as well as the method of claim **20**. Carlson fails to teach the changing of a modulation of the RF data transfer to accommodate the time sequence adjustment. However, Blair et al. teaches the changing of a modulation scheme on page 5, paragraph 46 as well as in Table 1 on page 3. At the time of the invention, it would have been obvious to someone of ordinary skill given these references to combine the teachings of Carlson with the modulation scheme adjustment of Blair et al. in order to provide a more preferable modulation scheme for outgoing data as spoken of on page 5, paragraph 46 of the Blair et al. reference.

Regarding claims **6 and 22**, Carlson teaches the system of claim **4** as well as the method of claim **20**. Carlson fails to teach the adjusting of a code rate of the RF data transfer to accommodate the time sequence adjustment. However, Blair et al. teaches the changing of a symbol rate on page 5, paragraph 46 as well as in Table 1 on page 3. At the time of the invention, it would have been obvious to someone of ordinary skill given these references to combine the teachings of Carlson with the symbol rate adjustment of Blair et al. in order to provide a more preferable symbol rate for outgoing data as spoken of on page 5, paragraph 46 of the Blair et al. reference.

8. Claims **7, 14, 15, and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (U.S. 6,374,082) in view of Petranovich et al. (U.S. 5,946,624).

Regarding claims **7, 14, and 25,** Carlson teaches the system of claim **1**, the method of claim **12**, and the method of claim **20**, respectively. Carlson fails to teach skipping or eliminating time slots in a sequence of time slots. However, Petranovich et al. teaches a method of reducing interference in Figure 6 where cells A-G use frequencies $F_1 - F_7$ during time slot T_1 and then skip time slot T'_1 and use frequencies in time slot T_2. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of Carlson with the time slot skipping of Petranovich et al. in order to reduce co-channel interference as spoken of in column 5, lines 11-36 of the Petranovich et al. reference.

Regarding claim **15**, Carlson further teaches that the desired RF transmissions are scheduled during the quiescent periods (duration) in the noise as spoken of in column 3, lines 37-47.

9. Claims **8, 9, 16, 17, 26, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (U.S. 6,374,082) in view of Petranovich et al. (U.S. 5,946,624) as applied to claims **7, 14, 15, and 25** above, and further in view of Blair et al. (US 2002/0173271).

Regarding claims **8, 16, and 26,** Carlson in view of Petranovich et al. teaches the system of claim **7**, the method of claim **15**, and the method of claim **25**, respectively. Carlson in view of Petranovich et al. fails to teach the changing of a modulation of the

RF data transfer. However, Blair et al. teaches the changing of a modulation scheme on page 5, paragraph 46 as well as in Table 1 on page 3. At the time of the invention, it would have been obvious to someone of ordinary skill given these references to combine the teachings of Carlson in view of Petranovich et al. with the modulation scheme adjustment of Blair et al. in order to provide a more preferable modulation scheme for outgoing data as spoken of on page 5, paragraph 46 of the Blair et al. reference.

Regarding claims **9, 17, and 27,** Carlson in view of Petranovich et al. teaches the system of claim **7**, the method of claim **15**, and the method of claim **26**, respectively. Carlson in view of Petranovich et al. fails to teach the changing of code rate of the RF data transfer. However, Blair et al. teaches the changing of a symbol rate on page 5, paragraph 46 as well as in Table 1 on page 3. At the time of the invention, it would have been obvious to someone of ordinary skill given these references to combine the teachings of Carlson in view of Petranovich et al. with the symbol rate adjustment of Blair et al. in order to provide a more preferable symbol rate for outgoing data as spoken of on page 5, paragraph 46 of the Blair et al. reference.

10. Claims **30-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (U.S. 6,374,082) in view of Roberts et al. (U.S. 6,006,071).

Regarding claims **30 and 32**, Carlson teaches the system of claim **1** as well as the method of claim **12**. Carlson further teaches microprocessor 24 (means) of Figure 2 that controls the communication (efficient scheduling) of data during quiescent periods in the noise (intervals that avoid the interference) as spoken of in column 3, lines 37-47.

Carlson fails to teach the use of forward error correction to correct errors in the RF data transfer. However, Roberts et al. teaches an RF receiver device 20 in Figure 2 for operating in the presence of repetitive RF interference that includes an error detecting circuit 58 and that performs a forward error correcting retransmission approach as spoken of on column 5, lines 33-43. At the time of the invention, it would have been obvious to someone of ordinary skill given these references to combine the teachings of Carlson with the FEC teachings of Roberts et al. in order to assure correct operation in the presence of interference created by microwave signals as spoken of on column 5, lines 33-43 of the Roberts et al. reference.

Regarding claims **31 and 33**, Carlson further teaches microprocessor 24 of Figure 2 that controls the communication (efficient scheduling) of data (payload) during quiescent periods in the noise (intervals that avoid the interference) as spoken of in column 3, lines 37-47.

11. Claims **34 and 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (U.S. 6,374,082) in view of Hiramatsu et al. (U.S. 6,463,261) as applied to claim **20** above, and further in view of Roberts et al. (U.S. 6,006,071).

Regarding claim **34**, Carlson in view of Hiramatsu et al. teaches the method of claim **20**. Carlson further teaches microprocessor 24 (means) of Figure 2 that controls the communication (efficient adjusting) of data during quiescent periods in the noise (intervals that avoid the interference) as spoken of in column 3, lines 37-47. Carlson in view of Hiramatsu et al. fails to teach the use of forward error correction to correct errors in the RF data transfer. However, Roberts et al. teaches an RF receiver device 20 in

Figure 2 for operating in the presence of repetitive RF interference that includes an error detecting circuit 58 and that performs a forward error correcting retransmission approach as spoken of on column 5, lines 33-43. At the time of the invention, it would have been obvious to someone of ordinary skill given these references to combine the teachings of Carlson in view of Hiramatsu et al. with the FEC teachings of Roberts et al. in order to assure correct operation in the presence of interference created by microwave signals as spoken of on column 5, lines 33-43 of the Roberts et al. reference.

Regarding claim **35**, Carlson further teaches microprocessor 24 of Figure 2 that controls the communication (efficient adjusting) of data (payload) during quiescent periods in the noise (intervals that avoid the interference) as spoken of in column 3, lines 37-47.

Response to Arguments

12. Applicant's arguments filed 1/31/2005 have been fully considered but they are not persuasive.

Regarding independent claim **1**, Applicant argues that Carlson fails to teach, *"means for detecting repetitive RF interference which occurs during RF data transfer intervals"* and *"means, ... for scheduling the RF data transfer during the intervals that avoid the interference"*. Applicant further argues that Carlson restarts transmission during the quiescent periods rather than continuing to transfer RF data during intervals that avoid interference. Examiner agrees that Carlson transmits data during the quiescent periods of the detected periodic noise. However, the quiescent periods of the

noise are the time intervals when there is no noise present in the periodic noise envelope as stated on column 4, lines 11-13. These quiescent periods would therefore be intervals that avoid interference. Therefore, it is held that Carlson anticipates claim **1**.

Regarding independent claim **12**, Applicant argues that Carlson fails to teach *"sweeping the filter across the band of interest"*. Carlson teaches the microwave periodic noise detection circuit (filter) shown in Figure 3 that uses an AM detector or RSSI circuitry to lock on to the envelope of the periodic noise (sweeping across an RF band to detect interference) as spoken of on column 3, lines 37-47. Therefore, it is held that Carlson anticipates claim **12**.

Regarding independent claim **20**, Applicant argues that Carlson does not teach that the RF filter used to determine time periods of repetitive RF interference within an RF band of interest to arrive at an interference profile is separate from a receiver and a transmitter used to carry out data transmissions. Examiner agrees that Carlson does not explicitly teach that microwave noise detect circuit 22 (RF filter) of Figure 2 can be separate from transceiver 12. However, it would be obvious to someone skilled in the art to use a stand-alone filter rather than a filter integrated with a transceiver as long as the filter performs the same function. Therefore, it is held that claim **20** is unpatentable over Carlson.

Regarding claims **3, 19, and 24,** Applicant argues that Ubowski et al. fails to teach interference from a radar signal. Applicant further argues that Ubowski et al. only teaches that microwave energy is useful for radar. This contention is noted. However,

Ubowski et al. teaches that microwave energy is used for radar applications on column 1, lines 33-38. Ubowski et al. also teaches how microwave communication signals can interfere with each other on column 1, line 64 – column 2, line 7. Since Ubowski et al. teaches radar as a type of microwave energy and that microwave signals can interfere with one another, it is held that one skilled in the art would consider radar as a potential type of interference. Therefore, it is held that claims **3, 19, and 24** are unpatentable over Carlson in view of Ubowski.

Regarding claims **5, 6, 21, and 22,** Applicant argues that Blair fails to teach modulation of an RF data transfer changed to accommodate time sequence shifting or adjusting a code rate of an RF data transfer to accommodate time sequence shifting. Applicant further argues that the modulation and symbol rate of Blair are selected based on bandwidth and priority. This contention is noted. However, Blair does teach the adjustment of a modulation type and a code rate. It is held that it would be obvious to one skilled in the art to apply the modulation and code rate adjustment of Blair in an interference avoidance environment. Therefore, it is held that claims **5, 6, 21, and 22** are unpatentable over Carlson in view of Blair.

Regarding claims **7, 14, 15, and 25,** Applicant argues that Petranovich does not show skipping a time slot and that the time slots of Petranovich are just used by different customers. This contention is noted. However, Petranovich et al. teaches a method of reducing interference in Figure 6 where cells A-G use frequencies $F_1 – F_7$ during time slot T_1 and then skip time slot T'_1 and use frequencies in time slot T_2. It is

held that this shows the concept of skipping (eliminating) a time slot. Therefore, it is held that claims **7, 14, 15, 25** are unpatentable over Carlson in view of Petranovich.

Regarding claims **10, 11, and 29,** Applicant argues that Hiramatsu et al. fails to teach, *"an antenna separate from antennas used to effect the RF data transfer"*. Applicant further argues that Hiramatsu teaches away from this limitation by disclosing "a signal of the interference mobile station and a signal of the desired mobile station are received from the reception antenna 1". This contention is noted. However, Hiramatsu et al. teaches a system in Figure 2 that uses an antenna 1 for reception and detection of an interference signal as spoken of in column 4, lines 9-17. This antenna 1 is different than antenna 8 of Figure 2, which is used for data transmission (RF data transfer) as stated in column 4, lines 37-43.

Applicant also argues that *"antennas used to effect the RF data transfer are sectorized and are used to determine a direction of the interference"*. However, Hiramatsu et al. teaches a system containing antennas 1 and 8 (sectorized) in Figure 2 that detects interference from an undesired source (direction of interference) as well as desired information as shown in Figure 2. Therefore, it is held that claims **10, 11, and 29** are unpatentable over Carlson in view of Hiramatsu.

Regarding claims **8, 9, 16, 17, 26, and 27,** Applicant argues that Blair fails to teach modulation of an RF data transfer changed to accommodate skipping a time slot or adjusting a code rate of an RF data transfer to accommodate skipping a time slot. Applicant further argues that the modulation and symbol rate of Blair are selected based on bandwidth and priority. This contention is noted. However, Blair does teach the

adjustment of a modulation type and a code rate. It is held that it would be obvious to one skilled in the art to apply the modulation and code rate adjustment of Blair in an interference avoidance environment. Therefore, it is held that claims **8, 9, 16, 17, 26, and, 27** are unpatentable over Carlson in view of Petranovich and in further view of Blair.

Regarding claims **30-35**, Applicant argues that neither Carlson nor the other prior art of record teaches the limitations of these claims. The prior art rejections of these claims are provided above.

Regarding claims **3, 5-11, 14-17, 19, 21, 22, 24-27, and 29:**

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). It is held that the motivations for combination provided above are proper based upon the reasoning provided above.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2666

mjm MM

FRANK DUONG
PRIMARY EXAMINER